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GOVERNING FOOD LOSS AND WASTE: A COMPARATIVE ANALYSIS OF GLOBAL MEASUREMENT METHODOLOGIES

Eder Joaquin Rodriguez Matus (matus.eder5@gmail.com)

Genaro Aguilar Gutiérrez (genaroaguilargtz@gmail.com)

Alejandra Ramírez Martínez (ramirez.alejandra@colpos.mx)

Roberto Rendón Medel (redes.rendon@gmail.com)

Measurement of food loss and waste (FLW) has become a strategic tool for informing public policy and strengthening the governance of food systems. Global methodologies not only generate data, but also shape how the problem is defined, prioritized, and managed. This paper aimed at analyzing the main global methodologies used to measure FLW by examining their approaches, assumptions, and scope, and by identifying their implications for food systems governance at global and territorial scales. The study analyzed methodologies developed by international organizations such as FAO, UNEP, WRI, WRAP, FUSIONS, and IICA. Technical documents and scientific literature were reviewed to examine the type of study, measurement techniques, analytical scales, variables considered, and forms of result expression. The results show

that these methodologies can be grouped into three main approaches: top-down models based on aggregated data, self-reporting methods, and direct measurement techniques. A total of seven methodologies developed by international organizations were identified. Of these methodologies, three rely on estimation, one focuses exclusively on quantification, and three combine both methods. In addition, five methodologies prioritize one or two stages of the food supply chain, while only two adopt a comprehensive approach covering multiple stages. Regarding result expression, six methodologies use mass-based units, three incorporate economic indicators, and two consider nutritional variables. Four main analytical approaches were identified: environmental, social, economic, and nutritional. These methodological differences directly influence the definition of targets, intervention strategies, and monitoring mechanisms, thereby conditioning how food systems are governed. It is concluded that FLW does not constitute merely a technical measurement challenge, but rather a central field of governance within the global food system. Advancing toward integrated, comparable, and context-adaptable methodological frameworks is essential to strengthen public policies, improve decision-making processes, and align international sustainability agendas.

Palavras-chave: methodologies; food systems; food loss and waste; governance; sustainability.